

PATENT  
Atty. Docket No. 0113.450US

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

WILLEM P.C. STEMMER

Serial No.: Divisional Application of 09/373,333

Group Art Unit: Unassigned

Filed: On Even Date

Examiner: Unassigned

For: DNA SHUFFLING TO PRODUCE HERBICIDE SELECTIVE CROPS



**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56, §1.97 AND §1.98**

Assistant Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

The citations listed on the enclosed Information Disclosure Form PTO-1449 may be material to the examination of the above-identified patent application. Therefore, Applicant submits these documents in compliance with the duty of disclosure as defined in 37 CFR §1.56, §1.97, and §1.98. The Examiner is requested to make these citations of official record in the present application.

The attached 1449 forms list documents that were cited in parent application U.S. Serial No. 09/373,333, filed August 12, 1999. Copies of two PCT International Search Reports from counterpart applications are enclosed for your reference.


Pursuant to 37 CFR §1.98(d), copies of the documents are not provided as they are cited in parent application Serial No. 09/373,333. Please contact Applicant's representative if copies cannot be found.

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The present information disclosure statement is being filed before the mailing date of the first Office Action on the merits and therefore no certification under 37 CFR §1.97(e) or fee under 37 CFR §1.17(p) is required.

This information disclosure statement under 37 CFR §1.56, §1.97 and §1.98 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these citations constitute prior art under 35 USC §102 or §103. Please charge any fees or credit any overpayment to Deposit Account No. 50-0990.

Respectfully submitted,

By:   
\_\_\_\_\_  
Christopher M. Holman  
Attorney for Applicant  
Reg. No. 40,021

October 25, 2001

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Approved for use through 10/31/99. OMB 0651-0031

Substitute for form 1449A-B/PTO  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)	Complete if Known	
	Application Number	09/373,333
	Filing Date	August 12, 1999
	First Named Inventor	Venkiteswatan Subramanian
	Group Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	02-025630US

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code (if known)			
	AA	5,512,463		Stemmer	04-30-1996	
	AB	5,514,588		Varadaraj	05-07-1996	
	AC	5,605,793		Stemmer	02-25-1997	
	AD	5,763,239		Short et al.	06-09-1998	
	AE	5,789,228		Lam et al.	08-04-1998	
	AF	5,811,238		Stemmer et al.	09-22-1998	
	AG	5,814,473		Warren et al.	09-29-1998	
	AH	5,830,696		Short	11-03-1998	
	AI	5,830,721		Stemmer et al.	11-03-1998	
	AJ	5,834,252		Stemmer et al.	11-10-1998	
	AK	5,837,458		Minushull et al.	11-17-1998	
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	AM	5,925,749		Mathur, et al.	07-20-1999	
	AN	5,928,905		Stemmer, et al.	07-27-1999	
	AO	5,939,250		Short, Jay M.	08-17-1999	
	AP	5,939,300		Robertson, et al.	08-17-1999	
	AQ	5,942,430		Robertson, et al.	08-24-1999	
	AR	5,948,666		Callen, et al.	09-07-1999	
	AS	5,958,672		Short, Jay M.	09-28-1999	
	AT	5,958,751		Murphy, et al.	09-28-1999	
	AU	5,962,258		Mathur, et al.	10-05-1999	
	AV	5,962,283		Warren et al.	10-05-1999	
	AW	5,965,408		Short, Jay M.	10-12-1999	
	AX	5,985,646		Murphy, et al.	11-16-1999	

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10/29/01

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	Examiner Name	<b>Unassigned</b>
	Attorney Docket Number	<b>02-025630US</b>

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		Office	Number	Kind Code (if known)				
	AY	EP	0293358A		Monsanto Co.	11-30-1988		
	AZ	WO	92/06201		Monsanto Co.	04-16-1992		
	BA	WO	97/07205		Novo Nordisk A/S	02-27-1997		
	BB	WO	97/20078		Affymax Technologies	06-05-1997		
	BC	WO	97/25410		Novo Nordisk A/S	07-17-1997		
	BD	WO	97/35957		Maxygen, Inc.	10-02-1997		
	BE	WO	97/35966		Maxygen, Inc.	10-02-1997		
	BF	WO	97/44361		Recombinant Biocatalysis Inc.	11-27-1997		
	BG	WO	97/48416		Recombinant Biocatalysis, Inc.	12-24-1997		
	BH	WO	97/48717		Recombinant Biocatalysis Inc	12-24-1997		
	BI	WO	97/48794		Recombinant Biocatalysis Inc	12-24-1997		
	BJ	WO	98/00526		Recombinant Biocatalysis Inc	01-08-1998		
	BK	WO	98/01581		Recombinant Biocatalysis Inc	01-15-1998		
	BL	WO	98/13485		Maxygen, Inc.	04-02-1998		
	BM	WO	98/13487		Maxygen, Inc.	04-02-1998		
	BN	WO	98/24799		Diversa Corp.	06-11-1998		
	BO	WO	98/27230		Maxygen, Inc.	06-25-1998		
	BP	WO	98/28416		Novo Nordisk A/S	07-02-1998		
	EQ	WO	98/31816		University of Minnesota	07-23-1998		
	BR	WO	98/31837		Maxygen, Inc.	07-23-1998		
	BS	WO	98/36080		Maxygen, Inc.	08-20-1998		

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	BT	WO	98/41622		Novo Nordisk A/S	09-24-1998		
	BU	WO	98/41623		Novo Nordisk A/S	09-24-1998		
	BV	WO	98/41653		Novo Nordisk A/S	09-24-1998		
	BW	WO	98/42832		California Institute of Technology	10-01-1998		
	BX	WO	98/48034		Diversa Corp.	10-29-1998		
	BY	WO	98/54330		Zeneca Ltd.	12-03-1998		
	BZ	WO	98/58085		Diversa Corp.	12-23-1998		
	CA	WO	99/07837		Diversa Corp.	02-19-1999		
	CB	WO	99/07865		Kimeragen Inc.	02-18-1999		
	CC	WO	99/08539		Diversa Corp.	02-25-1999		
	CD	WO	99/10472		Diversa Corp.	03-04-1999		
	CE	WO	99/10539		Diversa Corp.	03-04-1999		
	CF	WO	99/19518		Diversa Corp.	04-22-1999		
	CG	EP	0911396A2		Maxygen, Inc.	04-28-1999		
	CH	WO	99/21979		Maxygen, Inc.	05-06-1999		
	CI	EP	0911396A3		Maxygen, Inc.	05-06-1999		
	CJ	WO	99/23107		Maxygen, Inc.	05-14-1999		
	CK	WO	99/23236		Diversa Corp.	05-14-1999		
	CL	WO	99/25853		Pioneer Hi Bred Int.	05-27-1999		
	CM	EP	0934999A1		Maxygen, Inc.	08-11-1999		
	CN	WO	99/41369		Maxygen, Inc.	08-19-1999		
	CO	WO	99/41383		Maxygen, Inc.	08-19-1999		
	CP	WO	99/41402		Maxygen, Inc.	08-19-1999		
	CQ	WO	99/45154		Diversa Corp.	09-10-1999		
	CR	WO	99/57128		Maxygen, Inc.	11-11-1999		
	CS	WO	99/65927		Maxygen, Inc.	12-23-1999		

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	AB	WO	92/06201		Monsanto Co.	04-16-1992		
	AC	WO	98/31816		Minshull, et al.	07-23-1998		
	AD	WO	98/42852		Lerchl, et al.	10-01-1998		
	AE	WO	98/54330		Evans, et al.	12-03-1998		
	AF	WO	99/07865		Kimeragen, Inc.	02-18-1999		
	AG	WO	99/25853		Baszczynski, et al.	05-27-1999		
	AH	WO	99/38986		Guyer, et al.	08-05-1999		
	AI	WO	99/67402		Ward, et al.	12-29-1999		
	AJ	WO	00/09682		Affholter, et al.	02-24-2000		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
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	AK	Lee, K.Y., et al., "Homologous recombination in plant cells after Agrobacterium-mediate4d transformation" Plant Cell. vol. 2 May 1990, p. 415-425, XP002128868			
	AL	Engels, P., et al., "Comparison of homologous recombination frequencies in somatic cells of petunia and tobacco...." The Plant Journal vol. 2, no. 1, 1992 p. 59-67, XP002128869			
	AM	Asboth, et al., "Catalytically active antibodies for herbicide-resistant crop plant production; antibody deisgn for glyphosate inactivation; catalytic antibody; monoclonal antibody..." Plant Biotechnology EC-Hungary Workshop, 1-1-1991, p. 21, XP002074579			
	AN	Mourad, G., et al., "Intragenic recombination in the CSR1 locus of Arabidopsis" Mol. Gen. Genet., vol. 243, 1994, p. 178-184, XP002128867			
	AO	Majumder, K., et al., "Backround-minimized cassette mutagenesis by PCR using cassette-specific selection..." PCR Methods and Applications, vol. 4, 1995 p.212-218 XP002128870			

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	AA	5,605,793		STEMMER	02-25-1997	

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	AB	WO	97/20078		Affymax Technologies N.V.	06-05-1997		
	AC	WO	97/35966		MAXYGEN INC.	10-02-1997		
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	AE	WO	98/31837		MAXYGEN, INC.	07-23-1998		
	AF	WO	98/42832		California Institute of Technology	10-01-1998		

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	AG	OWEN, (1989), "Metabolism of Herbicides - Detoxification a the Basis of Selectivity" <i>Herbicides and Plant Metabolism</i> (Dodge AD, ed) pp 171-198 Cambridge University Press		
	AH	SHIOTA, et al., (1994) <i>Plant Physiol.</i> 106(1):17		
	AI	AONO, et al., (1995) <i>Plant Cell Physiol.</i> 36(8):1687		
	AJ	DATTA et al., (1992) <i>Plant Mol. Biol.</i> 20(4):619		
	AK	PARRY (1989) "Herbicide use and inventions" <i>Herbicides and Plant Metabolism</i> (Dodge AD, ed.) pp 1-36, Cambridge University Press, Cambridge, UK		
	AL	HOTZE M et al., (1995) <i>FEBS Letters</i> , 374:345-350		
	AM	MAY et al., (1972) <i>J. Biol. Chem.</i> 248:1725-1730		
	AN	HINZ, et al., (1995) <i>Weed Science</i> 45:474-480		
	AO	DCSA; el Kasmi A. et al., (1994) <i>Biochemistry</i> 33:11217-11224		
	AP	LATHROP et al., (1996) <i>J. Mol. Biol.</i> , 255:641-665		
	AQ	FREAR DS (1976) <i>Herbicides</i> , Kerney PC and Kaufman DD, eds., pp 541-594, Marcell Dekker, New York		
	AR	ANDERSON JF (1994) <i>Biochemistry</i> 33:2171-2177		

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	AS	STEMMER, <i>Science</i> 270:1510 (1995)	
	AT	STEMMER et al., <i>Gene</i> 164:49-53 (1995)	
	AU	STEMMER, <i>Bio/Technology</i> 13:549-553 (1995)	
	AV	STEMMER, <i>Proc. Natl. Acad. Sci. U.S.A.</i> 91:10747-10751 (1994)	
	AW	STEMMER, <i>Nature</i> 370: 389-391 (1994)	
	AX	CRAMERI et al., <i>Nature Medicine</i> 2(1):1-3 (1996)	
	AY	CRAMERI et al., <i>Nature Biotechnology</i> 14:315-319 (1996)	
	AZ	CLINE (1996) <i>Nucleic Acids Res.</i> 24:3546-3551	
	BA	WANG, (1997) <i>Biochemistry</i> 36:9486-9492	
	BB	JJUNG (1992) <i>Gene</i> 121:17-24	

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	AA	OWEN AND deBOER, (1995) "Plant Metabolism and the Design of New Selective Herbicides" <i>Eighth International Congress of Pesticide Chemistry</i> (Ransdale NN, Kearney PC and Plimmer JR, eds), pp 257-268, American Chemical Society, Washington, D.C.	
	AB	PADGETTE et al., (1996) "New weed control opportunities: Development of soybeans with a Round UP Ready™ gene" <i>Herbicide-Resistant Crops</i> (Duke, ed.), pp 53-84, CRC Lewis Publishers, Boca Raton	
	AC	VASIL (1996) "Phosphinothricin-resistant crops" <i>Herbicide-Resistant Crops</i> (Duke, ed.), pp 85-91, CRC Lewis Publishers, Boca Raton	
	AD	DRYER, (1996) "Techniques for producing herbicide-resistant crops" <i>Herbicide-Resistant Crops</i> (Duke SO, ed.) pp 85-91, CRC Lewis Publishers, Boca Raton	
	AE	BATARD Y. (1998) <i>The Plant Journal</i> 14:111-120	
	AF	LEVICHKIN (1995) <i>Mol. Biology</i> 29:572-577	
	AG	HATTORI, J., et al., (1995) <i>Mol. Gen. Genet.</i> 246(4)419	
	AH	SUBRAMIAN et al., (1997) "Engineering dicamba selectivity in crops: A search for appropriate degradative enzyme(s)" <i>J. Ind. Microbiol.</i> 19:344-349	
	AI	FREY M et al., (1995) <i>Mol. Gen. Genetics</i> , 246:100-109	
	AJ	MAY et al., <i>J. Am. Chem. Soc.</i> 98:7856-7858	

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	AA	CRAMERI et al., "DNA shuffling of a family of genes from diverse species accelerates directed evolution" (1998) <i>Nature</i> vol. 391, pp 288-291	

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